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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,546	04/11/2001	Ralph A. Mosher	D/A0584	4763

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EXAMINER

DICUS, TAMRA

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 09/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/833,546	Applicant(s) MOSHER ET AL.	
	Examiner Tamra L. Dicus	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-25 are drawn to a belt, classified in class 428, subclass 57.

II. Claim 26, drawn to an apparatus, classified in class 399, subclass 175.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Groups I and II are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this case the belt can be made by another apparatus such as a sewing machine, papermaking machine, stapler, or adhesive or ultrasonic welding joint apparatuses.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Annette Blade on 9/20/02 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-25. Affirmation of this election must be made by applicant in replying to this Office action. Claim 26 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Specification***

6. The disclosure is objected to because of the following informalities: On page 16, line 9, the term “monomer” is incorrect for describing *substituents* of hydrogen, methylene methoxy, etc.. Appropriate correction is required.
7. The disclosure is objected to because of the missing application numbers on pages 1 and 2. Correction is required.

### ***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Defining the polyimide as “polyaniline polyimide” is confusing, since polyaniline and polyimides are two different structures.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1 and 17,19-24 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,721,032 to Parker et al.

Parker teaches an endless seamed flexible intermediate belt comprising a first and second end, where each comprises plural mutually mating elements, joined in an interlocking relationship, forming a seam. The belt comprises a substrate of a polyimide, polyamide, or polycarbonate and the seam comprises an adhesive comprising a polyamide strip. See col. 2, lines 25-30, col. 5, lines 11-20, and col. 9, lines 20-38. The plurality of mutually mating elements are in the form of a puzzle cut pattern, which further comprise a first projection and second receptacle which are curved, forming a joint between first and second ends. See Figures 1-11, col. 5, lines 45-65. Parker teaches the volume resistivity of  $10^8$  to  $10^{11}$  ohms-cm at col. 5, lines 24-27.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-16, 18, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,721,032 to Parker et al. in view of USPN 6096470 to Fuller and further in view of USPN 5,663,283 to Sakakibara et al. and *Handbook of Thermoset Plastics* (2nd Edition) ©1998.

Parker essentially teaches the instant invention. Parker does not explicitly state the adhesive polyamide further comprising an alcohol soluble polyamide, consisting of methoxy or methylene methoxy groups, an electrically conductive filler such as a quaternary ammonium salt, having metal oxides such as titanium dioxide aluminium oxide, or carbon fillers such as carbon black or fluorinated carbon, or a polymer filler such as polypyrrole, or charge transporting molecules such as bis(dihydroxy diethylamino) triphenyl methane, or dihydroxy tetraphenyl biphenylene diamine, or a crosslinker such as oxalic acid, or the structure of claims 2-6. However, Fuller discloses it is known in the art to use the aforementioned alcohol soluble polyamide adhesive additives for producing flexible electrophotographic imaging members such as an endless belt at col. 7, lines 1-15, 49-67, col. 8, lines 1-17, 50-65, col. 9, lines 1-35, col. 16, lines 50-53, col. 19, lines 39-50, col. 20, lines 20-25. Fuller further details the polyamide structure of claims 2-5 at col. 15, especially lines 55-68 and col. 16, lines 1-2. With regard to the n number, the same consistency (solid) is produced, and  $n = 50$  to  $1000$  is equivalent to  $x = \text{an integer}$ . While Fuller does not show the R on the N; however, Fuller does teach the R can be substituted on the N in order to crosslink, as taught at col. 15, line 31. Parker and Fuller are analogous art because both references are in the same field of endeavor, such as electrophotography, and address the same or similar problem with which the inventor was

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involved. Hence, it would have been obvious to one of ordinary skill in the art to modify the endless belt of Parker to include the adhesive composition of Fuller to produce an improved belt having properties such as a longer wear life as taught by Fuller at col. 5, line 67, and col. 6, lines 1-50 and to substitute the R on the N as taught by Fuller in order to crosslink at col. 15, line 31.

Parker does not teach a substrate of polyaniline polyimide. However, Sakakibara teaches it is known to use polyaniline with electrically conductive fillers and the same adhesive additives above to produce electrically conductive supports for electrophotographic members at col. 6, lines 20-64. Moreover, pg. 426 of the Handbook of Thermoset Plastics by Landis et al. states it is known to blend polyaniline with polyimides, useful as coats or conductive composites to serve two roles of loadbearing and electrical current dispersal. Therefore, it would have been obvious to one of ordinary skill in the art to modify the belt of Parker to include polyaniline polyimide on a substrate as used by Sakakibara and further taught by Landis to improve conductivity of a substrate. The examiner has established a *prima facie* case of obviousness and has provided evidentiary support thereof for the rejection under 35 U.S.C. 103(a).

### ***Conclusion***

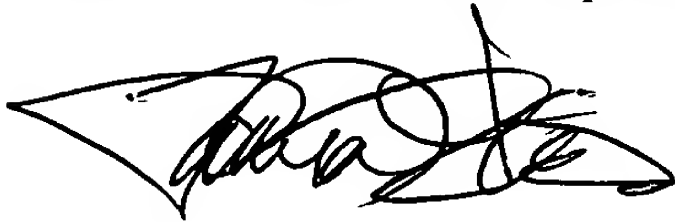
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 6,004,709 to Renfer teaches the adhesive compound of the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Tamra L. Dicus  
Examiner  
Art Unit 1774

September 25, 2002

CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

